

ABSTRACT OF THE DISCLOSURE

Disclosed is an apparatus and method for error detection in a precise system board requiring reliability and safety for controlling a number of processes, in which a failure detector and maintainer is connected to the system board, so as to detect a failure of the system board and normally maintain the operation of the system board even in failure. The failure detector and maintainer is constituted by a single chip and connected to the system board to diagnose the failure and maintain the operation, and comprises a voter for judging signals received from the system board using an at least 2/4 simultaneous generation logic to output an output signal; a comparator for comparing signals from four channels of the system board to recognize a channel outputting a failure signal; and a detector for detecting the failure signal to execute a feedback signal for maintaining the operation of the system board, by which the signal from the detector is re-transmitted to the voter through an OR gate so that the operation of the system board can be maintained normal.